

BORISOVA, Ye.I.; MENDEL'SON, M.M.; MCGORAS, S.S.; KULAKOV, G.P.

Electrocardiographic changes in disorders of electrolyte metabolism.
Kardiologiya 3 no.6:59-64 N-D '63. (MIRA 17:6)

1. Iz kafedry urologii (zav. - zashluzhennyy deyatel' nauki prof.
A.P. Frumkin [deceased]) Tsentral'nogo instituta usovershenstvovaniya
vrachey i otdeleniya funktsional'noy diagnostiki (zav. - kand. med.
nauk Ye.I. Borisova) bol'nitsy imeni S.P. Botkina (glavnyy vrach -
dotsent Yu.G. Antonov).

KULAKOV, G.P.; MENDEL'SON, M.M.; SIMOVSKIY, R.S.; GORBOVITSKIY, Ye.B.
KOZLOV, Yu.M.

Use of the artificial kidney in acute renal insufficiency
following abortion. Akush. i gin. 39 no.3:9-13-My-Je'63
(MIRA 17:2)

1. Iz kafedry urologii (zav. - zasluzhennyy deyatel' nauki
prof. A.P. Frumkin [deceased]) Tsentral'nogo instituta usover-
shenstvovaniya vrachey Bol'nitsy imeni S.P. Botkina (glavnyy
vrach - dotsent Yu.G. Antonov) i Nauchno-issledovatel'skogo
instituta eksperimental'noy khirurgicheskoy apparatury i in-
strumentov (direktor M.G. Anan'yev).

KULAKOV, G.P. (Moskva); MENDEL'SON, M.M. (Moskva); GORBOVITSKIY, Ye.B.
(Moskva); SIMOVSKIY, R.S. (Moskva)

Combined use of the artificial kidney and peritoneal dialysis.
Klin. med. 41 no.7:111-116 J1'63 (MIRA 16:12)

1. Iz kafedry urologii (zav. - prof. A.P.Frumkin [deceased]
TSentral'nogo instituta usovershenstvovaniya vrachey, Bol'nitsy
imeni S.P.Botkina (glavnyy vrach - dotsent Yu.G.Antonov) i
Nauchno-issledovatel'skogo instituta eksperimental'noy khirur-
gicheskoy apparatury i instrumentov (dir. M.G. Anan'yev).

KULAKOV, I. A.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7477

Author : Kulakov, I. A.
Inst : Voronezh State Pedagogical Institute
Title : Thermal Conductivity of Gas Mixtures

Orig Pub : Izv. Voronezhsk. gos. ped. in-ta, 1955, Vol 17, 85-96

Abstract : The thermal conductivity (T) of binary mixtures composed of water vapor and nitrogen and water vapor and carbon dioxide has been investigated. The heated wire method developed at the All-Union Institute for Heat Technology for pure gases was used with some modifications. A description of the equipment and of the procedure used is given. The T of $H_2 + H_2O$ and $CO_2 + H_2O$ was determined at 65 and 330° and for varying contents of H_2O . It is shown tha T of gas mixtures cannot be obtained by the additive rule from the T of the individual components

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USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7477

of the mixture. The values of T for the given mixtures are considerably large than those calculated from the additivity rule due to the presence of a dipole moment in the water vapor molecules. The results obtained are compared with the theoretical calculations of various authors.

Card 2/2

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KULAKOV, I.A., inzhener.

Lighting new rooms in the Museum of the Revolution of the U.S.S.R.
Svetotekhnika 2 no.3:1-4 My '56. (MLRA 9:8)

1. Trest "Elektromontazhkonstruktsiya".
(Moscow--Galleries and museums) (Lighting)

KULAKOV, I.A., inzhener.

Luminaires with annular metal shades. Svetotekhnika 2 no.5:
9-11 S '56. (MLRA 9:11)

1. Elektromontazhkonstruktsiya.
(Electric lamps) (Lamp shades)

TISHCHENKO, O.I.; OKHRIMOVICH, B.P.; TISHKOV, Yu.Ya.; KULAKOV, I.I.;
KHRUSTAL'KOV, L.A.; VASILEVSKIY, P.A.; PASYUK, K.I.

New method of building arc furnace hearths. Metallurg 8
no.2:15-17 F '63. (MIRA 16:2)

1. Zlatoustovskiy metallurgicheskiy zavod i Chelyabinskiy
institut ogneuporov.
(Electric furnaces—Design and construction)

KULAKOV, I.K., gornyy inzh.; LATSKIY, V.I., gornyy inzh.; MINGALEV, Yu.A.,
gornyy inzh.

On an article by A.I. Golomolzin, T.V. Kapitanov and others,
entitled "Reduce unnecessary volume of major mine workings."
Gor. zhur. no.5:78-79 My '58. (MIRA 11:6)

1. Sibirskoye otdeleniye Gosudarstvennogo instituta po proyektirovaniyu
predpriyatiy zoloto-platinovoy promyshlennosti (for Kulakov).
2. Unipromed' (for Iatskiy, Mingalev).
(Mining engineering)
(Golomolzin, A.I.) (Kapitanov, T.V.)

S/130/61/000/004/001/005
A006/A001

AUTHOR: Kulakov, I.I., Senior Master of the Electric Steel-Melting Shop

TITLE: Electric Furnace With Inclined Walls and Dismountable Carcass

PERIODICAL: Metallurg, 1961, No. 4, pp. 11 - 13

TEXT: Conventional electric arc furnaces at the Zlatoust Metallurgical Plant have cylindrical-shaped frames and walls. The walls are lined with blocks of magnesite powder mixed with coal-tar pitch. The furnaces withstand 50 to 55 heats. During operation, however, the blocks crumble entailing frequent still-stand time for repairs. Therefore the blocks were replaced by unroasted chrome-magnesite bricks in containers. A group of engineers at the plant suggested the redesign of one furnace carcass by replacing the lower cylindrical section to a height of 820 mm by one inclined through a 30° angle. The cylindrical section and the 450 mm high conic part are dismantlable. The bottom remained the same (Figure 1). At the upper section the furnace diameter was increased by 350 mm. Special ribs (16 vertical and 3 horizontal) provide for the necessary rigidity of both the cylindrical and the conic section. The dismantling line is 25 mm over the slag level. The dismantlable section is fixed to the stationary portion with flanges.

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S/130/61/000/004/001/005
A006/A001

Electric Furnace With Inclined Walls and Dismountable Carcass

The stability of the water cooled arch of the charge hole assures operation for 6 - 8 months. The floor and the slopes are lined with special magnesite bricks $MF-1$ (MG-1) and $MF-6$ (MG-6). The walls are lined with unroasted chrome-magnesite bricks in containers produced by the KMK refractory shop. The wall masonry is made with the use of 430 and 300 mm bricks; the space between the bricks and the carcass is filled with crushed old vault bricks. The walls so lined withstand 200 heats. The masonry of the spout and the furnace lining are illustrated. Presently, due to the lack of bricks in containers, chrome-magnesite bricks $XM-1$ (KhM-1) and $XM-3$ (KhM-3) are employed, which contain not over 42% MgO , not over 15% Cr_2O_3 and have a compression strength of over 250 kg/cm^2 , a volumetric porosity not over 24% and a temperature of beginning deformation under 2 kg/cm^2 load as high as 1,450°C. A water-diluted mixture containing 75% sand and 25% refractory clay is used as a binding material. The stability of the walls was tested in 3 campaigns: there were 170 heats in campaign I; 213 in II and 267 heats in III. The stability of the block walls after redesigning of the furnace was raised from 55 to 85 heats. The advantage of dismountable furnaces over stationary ones is, that repairs are facilitated lasting 10 - 12 hours for furnaces with bricks in

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S/170/61/000/004/001/005
A006/A001

Electric Furnace With Inclined Walls and Dismountable Carcass

containers and 14.-16 hours for KhM-1 and KhM-3 bricks. The repair time can be reduced even more by using a spare carcass which may be previously lined. The tests performed show that the new furnace design presents considerable advantages over the old model with straight walls and block linings, yielding a high economical effect and increasing the efficiency of metal production.

Figure 1:

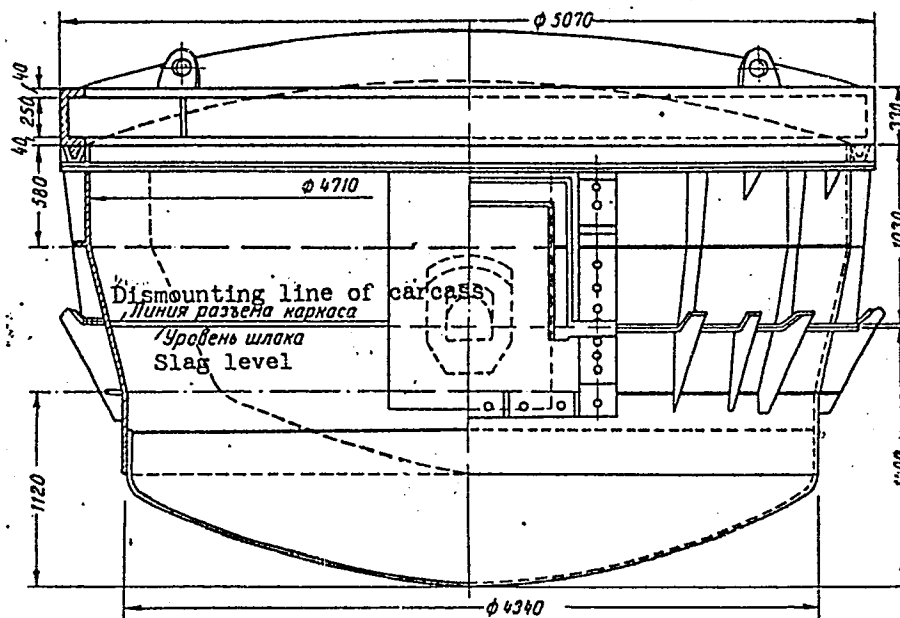
General view of a furnace carcass with inclined walls

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Electric Furnace With Inclined Walls and Dismountable Carcass

S/130/61/000/004/001/005
A006/A001

Figure 1:

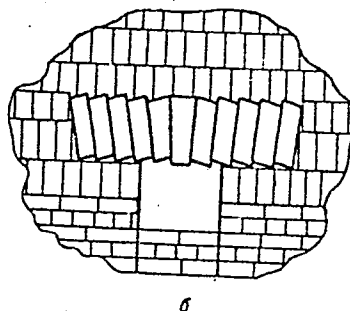
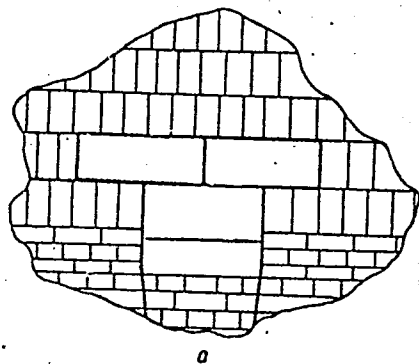


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S/130/61/000/004/001/005
A006/A001

Electric Furnace With Inclined Walls and Dismountable Carcass

Figure 3: Schematic representation of the spout masonry; a - initial masonry after redesigning; b - improved masonry



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Electric Furnace With Inclined Walls and Dismountable Carcass

S/130/61/000/004/001/005
A006/A001

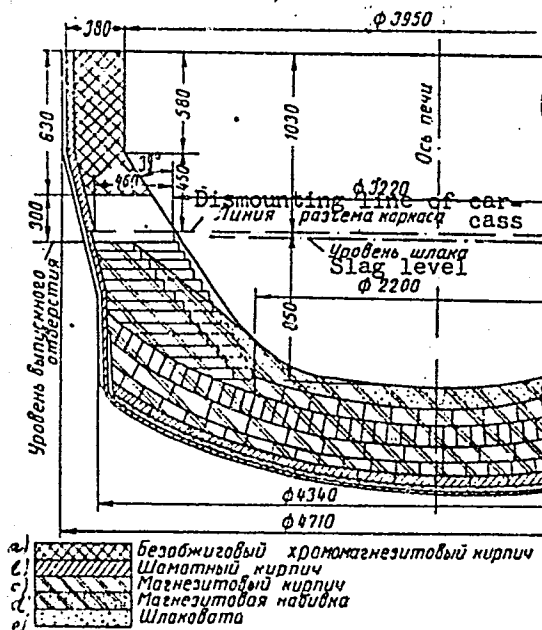
Figure 4:

Furnace lining. Section through the operational space

- a - unroasted chrome-magnesite bricks
- b - refractory bricks
- c - magnesite bricks
- d - magnesite filling
- e - slag wool.

There are 4 figures.

ASSOCIATION: Zlatoustovskiy metallurgicheskiy zavod (Zlatoust Metallurgical Plant)



Card 6/6

KULAKOV, I K

127-58-5-27/30

AUTHORS: Kulakov, I.K., Mining Engineer (Sibgiprozoloto); Latskiy, V.I., and Mingalev, Yu.A., Mining Engineers (Unipromed')

TITLE: Apropos of the Article by A.I. Golomolzin, T.V. Kapitanov et al "To Reduce Unnecessary Quantities of Capital Mine Workings" (Na stat'yu A.I. Golomolzina, T.V. Kapitanova i drugikh "Sokratit' izlischniye ob'yemy kapital'nykh gornykh vyrabotok")

PERIODICAL: Gornyy Zhurnal, 1958, Nr 5, pp 78-79 (USSR)

ABSTRACT: This is a review of two comments on the above-mentioned article which was published in Gornyy Zhurnal, Nr 6, for 1957.

AVAILABLE: Library of Congress

Card 1/1 1. Mines-Operation

PAVLOV, A.N., otv. za vypusk; VOLODICHEVA, V.N.; IVANOVA, A.I.; KILAKOV, I.N.; LYAMINA, T.N.; MIT'KINA, L.I.; POZDNYAKOVA, N.P.; RODIONOVA, L.I.; ROMANOVA, N.M.; SOFIYEV, E.S.; CHICHKINA, A.A.; TRESORUKOVA, Z.G.; BOGATYREV, P.P.; BROVKINA, A.I.; IVANOVA, L.D.; IVASHKIN, G.A.; KAMNEV, N.I.; LYSANOVA, L.A.; OZHEREL'YEVA, Z.I.; PAVLOVA, T.I.; TYUTYUNOVA, N.I.; UMNITSYNA, A.P.; ZHIVILIN, N.N.; ALESHICHEV, M.P.; VINOGRADOV, V.I.; YEREMIN, F.S.; KRAVCHENKO, Ye.P.; LOVACHEVA, M.V.; NIKOL'SKAYA, V.S.; MAKHOV, G.I.; SKEGINA, A.V.; TAREYEV, A.V.; KHOLINA, A.V.; BRYANSKIY, A.M.; BURMISTROVA, V.D.; GRIGOR'YEVA, A.M.; LUTSENKO, A.I.; OREKHOVA, Z.V.; TEPLINSKAYA, N.V.; FEOKTISTOVA, V.I.; BUTORIN, I.M.; BOCHKAREVA, L.D.; BURENINA, V.A.; VETUSHKO, A.M.; VIKHLYAYEV, A.A.; SOROKIN, B.S.; TSYBENKO, L.T.; KHLEBNIKOV, V.N.; DUMNOV, D.I.; STEPANOVA, V.A.; MANYAKIN, V.I., red.; VAKHATOV, A.M.; MAKAROVA, O.K., red.izd-va; PYATAKOVA, N.D., tekhn.red.

[Soviet agriculture; a statistical manual] Sel'skoe khoziaistvo SSSR; statisticheskii sbornik. Moskva, 1960. 665 p.

(MIRA 13:5)

1. Russia (1923- U.S.S.R.) TSentral'noye statisticheskoye upravleniye. 2. Upravleniye statistiki sel'skogo khozyaystva TSentral'nogo statisticheskogo upravleniya SSSR (for all except Makarova, Pyatakova).

(Agriculture--Statistics)

NOVOZHILOV, V.I.; KULAKOV, I.N.

Automatic production line for manufacturing carcasses of springs
fixed in continuous wattles. Der.prom. 8 no.2:16-17 F '59.

(MIRA 12:2)

1. Komitet po delam izobrateniy i otkrytiy pri Sovete Ministrov
SSSR.

(Furniture industry)

KULAKOV, I.N., inzh.

Automatic machines for machining cases for the "Pobeda" wrist
watches. Izobr. i rats. no.6:31-32 Je '58. (MIRA 11:9)
(Clockmaking and watchmaking)

KULAKOV, I.N., inzh.

Semiautomatic equipment used for lubricating watch movements.
Izobr.1 rats. no.7:39 J1 '58. (MIRA 11:9)
(Lubrication and lubricants) (Clocks and watches)

AUTHOR: Kulakov, I. M. SOV/119-58-8-14/16

TITLE: A Semiautomatic Device for the Lubrication of the Mechanism of an Alarm Clock (Poluavtomaticheskoye ustroystvo dlya smazyvaniya mekhanizma budil'nikov)

PERIODICAL: Priborostroyeniye, 1958, Nr 8, p. 30 - (USSR)

ABSTRACT: An alarm clock has 29 points of lubrication which must be lubricated with two different high-quality oils. Lubrication by hand, as hitherto practiced, takes too much time apart from the fact that the distribution of oil at the various points is different in each individual case. S. A. Bich, V. V. Glinkin, and L. Z. Sheftel', members of the staff of the Orlov clock factory, were some time ago granted patent rights for developing a semiautomatic device. There are two working positions: First all the oilholes on the one side and then all oilholes on the other side of the alarm clock are lubricated. The device consists of two reservoirs from which the oil is conveyed under one and the same hydrostatic pressure to as many adapters as there are oilholes. At the end of the adapter

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SOV/119-58-8-14/16

A Semiautomatic Device for the Lubrication of the Mechanism of an Alarm Clock

there is a needle valve on which a drop of oil of always the same size collects. The side of the alarm clock to be oiled is then raised until it meets the resistance of the needle valves. In this position the drop reaches the point to be lubricated. This side of the alarm clock is then lowered, and meanwhile another drop of oil forms on the needle valve. After the side of the alarm clock has been automatically changed, the process of lubrication starts afresh.

The working capacity attained is from 7 to 8 times as high as that attained if lubrication is carried out by hand.

There is 1 figure.

1. Electric clocks--Lubrication
2. Industrial equipment--Design
3. Industrial equipment--Operation

Card 2/2

KULAKOV, I.N., inzh.; KATS, I.M., inzh.; SUKHAREVA, R.A., red.;
KURILKO, T.P., tekhn. red.

[Collection of inventions; machine, tools and metal-
cutting tools] Sbornik izobretenii; stanki i instrument.
Moskva, TSentr. biuro tekhn. informatsii, 1961. 307 p.
(MIRA 15:5)

1. Russia (1923- U.S.S.R.) Komitet po delam izobreteniy i
otkrytiy.

(Machine tools--Technological innovations)

S/035/62/000/005/075/098
A055/A101

AUTHORS: Aksanova, L. P., Kulakov, I. N.

TITLE: On the barometer-altimeter of M. A. Artanov

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 13-14, abstract 5G73 ("Tr. Sibirsk. n.-i. in-ta geol., geofiz. i mineral'n. syr'ya", 1961, no. 14, 213-223)

TEXT: The authors describe the design of M. A. Artanov's altimeter and analyze the formula underlying the design of this instrument and the estimation of its precision. They point out that the equation governing the operation of the altimeter:

$$V_0 (1 + \alpha t) P_1 = [V_0 (1 + \alpha t) + l s] [P_2 + m]$$

characterizes only a particular case, i.e. when its temperature remains constant. A relationship is deduced, expressing the operation of the instrument in the general case, i.e. when its temperature and the atmospheric pressure vary. Formulae are suggested for calculating the corrections that permit bringing the temperature coefficient to a value approaching zero (correction for the variation of the level of the liquid in the manometer and correction for the variation

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On the barometer-altimeter of M. A. Artanov

S/035/62/000/005/075/098
A055/A101

of the average temperature in the temperature coefficient determination). It is pointed out that thanks to these corrections the errors in the measured heights are reduced considerably. In levelling with three instruments (210 measurements), the following values for the RMS error were obtained without taking the corrections into account: ± 8.0 ; ± 5.1 and ± 5.0 m, whereas the values: ± 1.6 ; ± 1.7 and ± 1.5 m were obtained after corrections. The RMS error in a single determination of the difference of the indications of the altimeter and of the mercury barometer (from 800 comparisons) was ± 2.1 m without taking the corrections into account, and ± 1.5 m after the corrections. It is supposed that after the removal of the defects due to the construction of the instrument, the RMS error of a single determination of the point elevation (in observations with three instruments) will not exceed ± 2 m for a duration of the voyage not exceeding 8 hours, for a distance of 10 - 12 km from the control station, and for elevations not exceeding 100 - 120 m. In voyages not longer than 2 hours and for a maximum distance of 5 km from the control station, it will be possible to determine the elevations of the points with an error of the order of ± 1 m. ✓

V. Zaytsev

[Abstracter's note: Complete translation]

Card 2/2

ACCESSION NR: AT4002127

S/2702/63/000/014/0143/0154

AUTHOR: Yegorov, A. P.; Kulakov, I. N.; Sloush, M. M.; Shkulepova, L. G.

TITLE: Field investigations of the MBN-P microbarometric levels

SOURCE: USSR. Glavnoye upravleniye geologii i okhrany* nedr. Geofizicheskaya razvedka, no. 14, 1963, 143-154

TOPIC TAGS: surveying, surveying instrument, level, microbarometric level, aneroid, MBN P microbarometric level

ABSTRACT: The design and operating principles of the MBN-P microbarometric levels, manufactured by the "Gidrometpribor" plant, are described and illustrated (see Figs. 1 and 2 of the Enclosure). Several such instruments were standardized prior to field tests. Field tests carried out to check the elevations of gravimetric stations showed level errors of ± 0.56 m (366 readings) and 0.68 m (315 readings) in sightings to gravimetric station elevations of 7 and 14 km, respectively, from the initial station level. The mean square error of closure was $\pm 0.5-0.7$ m. Orig. art. has: 3 figures, 7 tables and 11 formulas.

ASSOCIATION: Glavnoye upravleniye geologii i okhrany* nedr (Main Bureau for Geology and Conservation of Natural Resources)

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Card

ACCESSION NR: AT4002127

SUBMITTED: 00

ENCL: 02

SUB CODE: ES

NO REF SOV: 000

OTHER: 000

Card

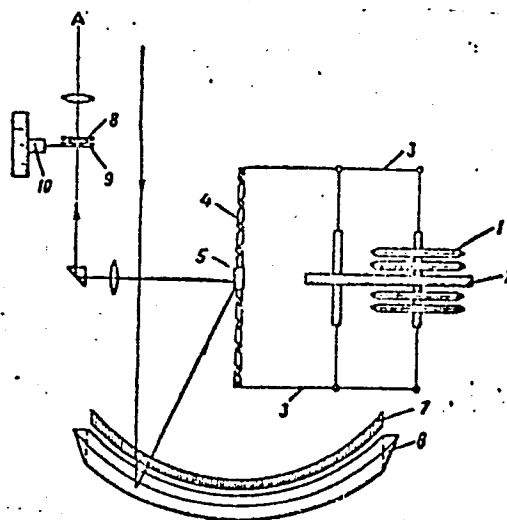
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ACCESSION NR: AT4002127

ENCLOSURE:01

Fig. 1 - Schematic diagram
of an MBN-P microbarometer

- 1 - aneroid blocks
- 2 - base plate
- 3 - leverage bars
- 4 - double cylindrical band spring
- 5 - mirror
- 6 - prism
- 7 - gauge scale
- 8 - ocular micrometer focal plane
plate with eight numbered gradua-
tions
- 9 - plate with bisector
- 10 - micrometric thread



Card — 3/4

ACCESSION NR: AT4002127

ENCLOSURE:02

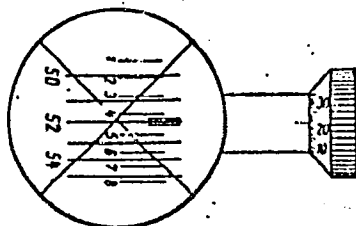


Fig. 2 - Field of view of the ocular micrometer in a MBN-P microbarometer

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Card

KULAKOV, I.N.

Instrumental errors of the MBHP microbarometer. Razved. geofiz.
no.4:80-87 '65. (MIRA 18:9)

1. 0000-00 INT(1) IN

ACC NR: AT6003622

SOURCE CODE: UR/3152/65/000/007/0107/0117

AUTHOR: Kulakov, I. N.

ORG: none

TITLE: Barometric leveling method in gravimetric surveys with isoanomalic lines separated by 0.5 and 1.0 milligal intervals

SOURCE: Razvedochnaya geofizika, no. 7, 1965, 107-117

TOPIC TAGS: gravimetric survey, pressure gradient, barometer

ABSTRACT: The altitudes of points established by previous geodetic and geometric surveys were re-examined with the use of microbarometers. The area under investigation was surveyed by the loop method with one temporary and three base stations. The following approaches were used in computing the barometric data: 1) the loop method of evaluation; 2) the division of loop method data into two categories each of which represented a survey with two base points (initial and final); 3) the use of the computations presented for 1) plus additional computations pertaining to pressure-gradient correction; and 4) computations based on the three-station method. The data are expressed by curves of the distribution of pressure and horizontal pressure gradients (q_a) as a function of the time of the year for various localities. Orig. art. has: 4 figures, 5 tables, 2 formulas.

SUB CODE: 08/

SUBM DATE: 00/

ORIG REF: 000/

JTH REF: 000

Card 1/1 BK

KULAKOV, I.V., inzhener; SAVENKO, I.V., inzhener

Maximum use of earth cutting excavators in peat winning and construction enterprises. Torf.prom.32 no.5:16-18 '55.

(MLRA 8:10)

1. Orekhovo-Zuyevskiy torfotrest (for Kulakov). 2. Glavnoye upravleniye torfyanoy promyshlennosti (for Savenko)
(Peat machinery)

KULAKOV, I.V.

SAVENKO, I.V., inzh.; KULAKOV, I.V., inzh.

Crossings over side drains in milled peat fields. Torf.prom. 34
no.6:21-22 '57. (MIRA 10:12)

(Peat industry)

SAVENKO, I.V., inzh.; KULAKOV, I.V., inzh.

Cleaning of block drainage ditches by means of KPSH screw rotor
machines. Torf. prom. no.1:11-13 '58. (MIRA 12:12)
(Drainage) (Peat machinery)

SAVENKO, I.V., inzh.; KULAKOV, I.V., inzh.

Use of floating units for cleaning of draining ditches at peat
works. Torf.prom. 36 no.4:31-32 '59. (MIRA 12:9)

1. Mosoblsovnarkhoz (for Savenko). 2. Orekhovskiy torfotrest
(for Kulakov).
(Peat bogs) (Drainage)

KULAKOV, J. I.

WILGARIA/Theoretical Physics - Quantum Mechanics

B-4

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 9915

Author : Kulakov, J.I.

Inst : Moscow State University

Title : On Transformation Functions for Particles with Arbitrary Spin

Orig Pub : Dokl. Bolg. AN, 1957, 10, No 2, 105-108

Abstract : It is shown that the radial parts of the wave functions in the x and p representations are related by :

$$\langle x; J, L, M | = i^L \int dp (p^2)^{-1/2} J_L + K(p^2) \langle p; J, L, M |$$

The transformation function of the radial parts of the wave function is independent of the spin properties of the particles, and is determined only by their orbital momentum.

Card : 1/1

KULAKOV, K. N.

Kulakov, K. N.

"Principles of the method of the complex corrective course in the English language in the institutes and faculties of foreign languages." Moscow City Pedagogical Inst imeni V. P. Potemkin. Moscow, 1956
(Dissertation for the degree of Candidate in Pedagogical Sciences)

Knizhnyaya letovka

No. 15, 1956. Moscow

KULAKOV, K.N., podpolkovnik meditsinskoy sluzhby; IL'IN, I.I., mayor
meditsinskoy sluzhby; ARONOV, B.M., mayor meditsinskoy sluzhby

A book which did not justify the hope of specialists in aviation
medicine ("Work practice in the field of aviation neurology and
problems of prophylaxis." D.I.Pisarev. Reviewed by K.N.Kulakov,
I.I.Il'in, B.M.Aronov) Voen.-med. zhur. no.5:92-94 My '56.

(AVIATION MEDICINE)

(MLRA 9:9)

(PISAREV, D.I.)

137-58-6-11497

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 35 (USSR)

AUTHORS: Abramov, G.A., Kostyukov, A.A., Kulakov, L.B.

TITLE: An Investigation of the Phase Diagram of the Quaternary System Cryolite - Aluminum Fluoride - Calcium Fluoride - Alumina
(Issledovaniye diagrammy sostoyaniya chetvernoy sistemy kriolit-ftoristyy alyuminiy-ftoristyy kal'tsiy glinozem)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1957, Nr 188, pp 45-57

ABSTRACT: Methods of thermal and optical analysis are used to study the phase diagram of the $5\text{NaF} \cdot 3\text{AlF}_3 - \text{CaF}_2 - \text{Al}_2\text{O}_3$ section of the quaternary system $\text{Na}_3\text{AlF}_6 - \text{AlF}_3 - \text{CaF}_2 - \text{Al}_2\text{O}_3$ for the purpose of arriving at a better substantiated approach to the selection of the optimum composition of the electrolyte of Al baths, and in order to develop a crystal optical method of determining the molar ratio $\text{NaF}:\text{AlF}_3$ in baths containing CaF_2 and a crystal optical method of determining the CaF_2 content of Al bath electrolytes. The following is established: 1) the surface of the liquidus of the $5\text{NaF} \cdot 3\text{AlF}_3 - \text{CaF}_2 - \text{Al}_2\text{O}_3$ section is formed by 3 fields: cryolite, CaF_2 , and Al_2O_3 ; 2) the $5\text{NaF} - \text{AlF}_3 - \text{CaF}_2 - \text{Al}_2\text{O}_3$ section divides the tetrahedron of the

Card 1/2

137-58-6-11497

An Investigation of the (cont.)

quaternary system into 2 spaces. The alloys in the space adjacent to the cryolite corner of the tetrahedron, limited by the $5\text{NaF} \cdot 3\text{AlF}_3 - \text{CaF}_2 - \text{Al}_2\text{O}_3$ plane, undergo final solidification at the quaternary peritectic point at 685°C . The alloys lying in the $5\text{NaF} \cdot 3\text{AlF}_3 - \text{Al}_2\text{O}_3 - \text{CaF}_2 \cdot \text{AlF}_3$ space undergo final solidification at the quaternary eutectic point at 665° . The composition for the quaternary transition point is found.

N.P.

1. Aluminum oxide-halogen fluoride systems--Chemical reactions
2. Aluminum oxide-halogen fluoride systems--Properties
3. Aluminum oxide-halogen fluoride systems--Phase studies
4. Electrolytes--Composition 5. Aluminum--Processing

Card 2/2

BUDENNYI, A.P.; KULAKOV, L.N.

Control program assigning system. Trudy MEI no.49:29-37
'63. (MIRA 17:3)

L 65284-65 EWT(d)/EEC(k)-2/EEB-2/ENP(1) IJP(c) BB/GG

ACCESSION NR: AP5019470

UR/0315/65/000/006/0020/0022
651.926.011.56:681.14-523.8

AUTHOR: Kulakov, L. V. ^{44, 55}

TITLE: A dictionary storage device ^{16C, 44} for electronic digital computing machines ⁵⁰

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 6, 1965, 20-22

TOPIC TAGS: data storage, data processing, ⁵⁵ computer, machine translation, language

ABSTRACT: A recently produced device and system for long term associative dictionary type storage is described. The device was developed at the Laboratoriya elektromodelirovaniya VINITI, AN SSSR (Electromodeling Laboratory, VINITI, AN SSSR) and features a storage capacity of 2000 words designed for use as an English-Russian dictionary in a special logic-information machine. The device accepts a coded English word as input and outputs its Russian equivalent. The design is such that neither the search nor input-output cycle time is dependent upon the number of words stored or the degree of disorder in the word code. The arrangement consists of interrogatory and response elements, each having its own control network. The input code is in binary, and, upon being input to the interrogation element, it is compared with all stored codes. If the code is the same as a word in storage an impulse is generated which causes the response element to write the Russian

Card 1/2

L 65284-65

ACCESSION NR: AP5019470

translation on the output register. The system is described in reference to a block diagram. The principles of construction of the machine memory are described. Additional discussion is presented on a means of combining two separate types of memory such that they jointly perform as one unit without the addition of intermediate elements. Two simple examples of the decoding and translation performed by the system are given. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 30Dec64

ENCL: 00

SUB CODE: DP

NO REF SOV: 003

OTHER: 001

Card 2/2

1ST AND 2ND CODES																										3RD AND 4TH CODES																									
PROCESSIES AND PROPERTIES INDEX																																																			
<p><i>Cur</i></p> <p>Structural formation of mercury sols of sulfosalicylic acid. I. A. I. Rabinerson and M. A. Kulakov, <i>J. Gen. Chem.</i> (U. S. S. R.) 7, 2729-30 (in French 2737) (1967).—The sol was prepd. by the method of Ostwald and Mertens, <i>C. A.</i> 20, 3811. The sol ages in 2 stages. In freshly prepd. sols viscosity η at first decreases, owing to the destruction of the labile structure during peptization of H_2O, then it increases beyond its original value, showing that the sol possesses some self-coagulating agent.</p> <p>When the sol is heated, η at first decreases, then increases with time, but more slowly than when the sol is not heated. Thin. of the sol leads to a gradual destruction of its structure. Addn. of neutral salts that do not react with the dispersed phase results in a thixotropic coagulating structure. Addn. of increasing amts. of alkali causes at first a thixotropic structure in proportion to the amt. of alkali added, until a max. is reached, beyond which η decreases, reaching the value for H_2O at the neutral point. The appearance of a max. is explained by the presence of 2 opposing factors: increase in concn. of a neutral salt which serves as a coagulator and increase in concn. of the colloid.</p> <p>S. I. Madsen</p>																																																			
<p>450.35.4 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

Colloidal substances in natural waters. M. A. Kulakov.
 Publ. Acad. Sci. U. R. S. S. R. *Sov. geograph. geophys.* 1938,
 No. 1, 73-91; *Khim. Referat. Zhur.* 2, No. 2, 26 (1939).
 The content of the colloidal substances in water was detd.
 by the method of ultrafiltration. In Lake Baikal and its

tributaries the colloid content varied from 8×10^{-3} to
 $136 \times 10^{-3}\%$, and in the Leningrad lakes from 5×10^{-3}
 to $103 \times 10^{-3}\%$. Usually the natural waters contain more
 org. colloids (humic substances) than inorg. colloids. The
 soln. of electrolytes is the dispersion medium, and such
 compds. as SiO_2 , $\text{Fe}(\text{OH})_3$, and $\text{Al}(\text{OH})_3$, and the humic
 substances are the dispersed phase. The sources of col-
 loids in the hydrosphere (weathering, the action of tides,
 the breaking up of rock formations in the channel, forma-
 tion of colloidal $\text{Fe}(\text{OH})_3$ by the hydrolysis of the Fe salts,
 etc.) and the significance of the colloidal-chem. properties
 of natural waters in chem., phys. and hydrological investi-
 gations are discussed.

W. R. Heun

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION

1938-1939

SEARCHED MAY ONE DAY

ALL INFORMATION

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BUCKLEY, H.B.; KULAKOV, M.A. [translator]; ANSHELES, O.M., redaktor;
FRANK-KAMENETSKIY, V.A., redaktor; SHUVALOV, L.A., redaktor;
GERASIMOVA, Ye.S., tekhnicheskij redaktor

[Crystal growth. Translated from the English by M.A.Kulakov] Rost
kristallov. Perevod s angliiskogo M.A.Kulakova. Pod red. O.M.
Anshelesa i V.A.Frank-Kamenetskogo. Moskva, Izd-vo inostrannoi
lit-ry, 1954. 406 p. (MLRA 7:11)
(Crystallography)

Doc. 131-434

1

١١٧

AUTHOR: SHEFTAL, N. 53-228/9
TITLE: H. Buckley: "The Growth of Crystals", 1951.
(G. BAKLI: Rost kristallov, Russian).
(Translation from the English language by M.A. Kulakov under the
Editorship of O.M. Anschelesa and V.A. Frank-Kamenetskogo.
Publishing House for Foreign Literature, Moscow 1954, 406 pp).
PERIODICAL: Uspekhi Fiz. Nauk, 1957, Vol 62, Nr 2, pp 191 - 196 (U.S.S.R.)
ABSTRACT: The book "The Growth of Crystals" has 12 chapters:
1) Solution, solubility, saturation.
2) Artificial crystal breeding.
3) The theory of crystal growth by Curie.
4) On the so-called velocity of growth.
5) Theory of diffusion.
6) Present theories of growth.
7) Ideal and real crystal.
8) Various types of crystallization.
9) Dissolution.
10) The influence exercised by additions on the shape of crystals.
11) The influence exercised by various materials on crystallization.
12) Peculiar features of crystal growth.

Card 1/2

H. Buckley: "The Growth of Crystals"

53-2-8/9

The reviewer, N. SHEFTAL', says about this book: "The theoretical side of the growth of crystals is not very clearly described, and such new developments as the dislocation theory (1949), the spiral-shaped crystal growth (1950), the molecular kinetic theory (1950) are disregarded. In view of these and other shortcomings BAKLI's book is only of limited value.

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

YEFREMOV, Aleksandr Yefremovich; KULAKOV, M.I., redaktor

[Machine-tractor station machinery operators in the struggle for
bigger crops] Mekhanizatory MTS v bor'be za vysokii urozhai. Kazan',
Tatknigoizdat, 1953. 78 p. (MLRA 9:9)
(Machine-tractor stations)

KULAKOV, N.T.

For year-round repair of machinery. Nauka i pered.op. v sel'khoz.
7 no.8:54-55 '57. (MLRA 10:9)

(Agricultural machinery--Maintenance and repair)

KULAKOV, M. P.

Continuous line filter for the separation of distiller's
grain from the stillage. Spirt. prom. 29 no.3:42-43 '63.
(MIRA 16:4)

1. Petrovskiy spirtovoy zavod.

(Filters and filtration)

(Distilling industries--By-products)

KULAKOV, M. V. *Cond. Technical Sci.*

"Investigation of the Thermal Properties of Solid Heat Insulators." Sub 4
Jul 51, Moscow Inst. of Chemical Machine Building.

Dissertation presented for science and engineering degrees in Moscow during
1951.

SO: Sum. No. 480, 9 May 55

KULAKOV, M. V.

USSR/Physics - Temperature Coefficient
of Metals

Jan 52

"Determining the Thermal Coefficients of Solid
Heat-Insulators," M. V. Kulakov, Moscow Inst of
Chem Mach Constr

"Zhur Tekh Fiz" Vol XXII, No 1, pp 67-72

Acknowledges the helpful advice of Prof A. V. Lykov,
Laureate of Stalin Prize. Sets up and solves sub-
ject problem on the basis of which the Moscow Inst
of Chem Mach Constr has developed and realized a
new method and app for detg all the thermal coeffs
in one single app and in only one expt. The time
necessary is only 6-10 min. Submitted 24 Oct 50.

206T101

KULAKOV, M. V.

Heat conductivity problems involving a heat source. Teplo- i
massoper. 1:42-56 '62. (MIRA 16:1)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

(Heat—Conduction) (Materials—Thermal properties)

KULAKOV, M.V.; RAYEV, G.G.; SHKRAMATOV, Ye.I.

Stability of systems with magnetic suspensions of bodies made of
ferromagnetic materials. Prikladnaya mekhanika no. 8-9-10 '64.
(MIRA 17:10)

KULAKOV, M.V.; SHKATOV, Ye.F.; PUCHKOV, A.A.; KHANBERG, V.A.

Computer for processing the differential chromatograms of
C₁--C₅ fractions. Mash. i نفت. obor. no.9:30-31 '64.

(MIRA 17:11)

1. Moskovskiy institut khimicheskogo mashinostroyeniya, Yaroslavskiy
nauchno-issledovatel'skiy institut manometrov i Yaroslavskiy tekhnologicheskiy institut.

KULAKOV, M.V.; SHKATOV, Ye.F.

Differential pneumatic detector of a gas chromatograph.
Priborostroenie no.10:11-13 0 '64.

(MIRA 17:11)

KULAFOV, R.A.; SHAROV, Ye.P.

Regulating chromatograph with a differential pneumatic detector.
Biol. tekh.-ekon. inform. Gos. nauch.-issl. inst. mash. i tekh.
inform. 17 no.8:28-31 Ag '64.

(Biol. 17:11)

L 20970-66

ACCESSION NR: AP5018214

UR/0119/65/000/007/0011/0013
531.75:621.3.083.8

AUTHOR: Kulakov, M. V. (Candidate of technical sciences); Shakhmatov, Ye. P.
(Engineer) 58

TITLE: Sensor for measuring density and small volume and weight rate-of-flow
of a liquid ηm ηm

SOURCE: Priborostroyeniye, no. 7, 1965, 11-13

TOPIC TAGS: densimeter, flow meter

ABSTRACT: A sensor is described which uses the principle of compensation of forces acting on a float suspended in a magnetic field. The sensor comprises: (1) the sensor proper producing a d-c signal and (2) an electrical computing circuit which segregates the signals of density and rate-of-flow. Two identical plastic floats 1 with ferrite caps 2 are suspended inside glass tubes 3 in the magnetic fields of solenoids 4. Under static conditions, the position of floats 1

Card 1/3

L 20970-66

ACCESSION NR: AP5018214

with respect to sensing coils 5 is determined by the float weight, liquid density, and solenoid current. When a liquid flows in the system, the floats are displaced, but then returned to their original position by adjusting the solenoid current. Density and volume rate-of-flow are indicated by millivoltmeters 6 and 7; mass rate-of-flow, by electrodynamic microwattmeter 8. A thermistor is used to compensate for the liquid viscosity. The sensor can be calibrated for one liquid only; other liquids require different values of circuit resistors. Orig. art. has: 2 figures, 17 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: IE

NO REF SOV: 001

OTHER: 000

Card 2/3

KULAKOV, M.V.; SHKATOV, Ye.F.

Parameters of the experiment of chromatographic analysis of
petroleum refinery gases. Nefteper. i neftekhim. no.5:14-18
'65. (MIRA 18:7)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

39533-66 EWT(d)/EWT(1)/EWP(h)/EWP(1)/EWA(h)/ETC(m)-6 WW/GD

ACC NR: AP6007690

SOURCE CODE: UR/0413/66/000/003/0069/0069

AUTHOR: Kulakov, M. V.; Zhukov, Yu. P.

ORG: none

TITLE: Device for measuring the flow rate of electroconductive fluids. Class 42,
No. 178513 *14 gm*

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 69

TOPIC TAGS: flow meter, electroconductive liquid, flow measurement, flow rate

ABSTRACT: An Author Certificate has been issued for a device for measuring the flow rate of electroconductive fluids equipped with a differential sensor, a balance amplifier, and a microammeter. To extend the measurement limits toward the low end, the sensor is designed in the form of two conductometric cells, one of which contains a stationary liquid and the other the liquid passing through it. Each cell consists of two containers, each with an electrode. The containers are connected by a capillary.

[LD]

SUB CODE: 13/ SUBM DATE: 15Jun64/

Card 1/1 vmb

UDC: 681.121.8

VLASOV, V.V.; KULAKOV, M.V.

Methods for complex continuous determination of the thermo-
physical coefficients of laminated and monolithic materials.
Trudy MIKHM 25:237-255 '63. (MIRA 17:6)

24500-66 EWT(d)/EWT(1)/SWP(h)/SWP(1)/SWA(h)/STC(h)-6 HW

ACC NR: AP6007689 SOURCE CODE: UR/0413/65/000/003/0069/0069

AUTHOR: Kulakov, M. V.; Zhukov, Yu. P. 55
B

ORG: none

TITLE: Method of measuring the flow rate of electroconductive fluids.
Class 42, No. 178512 14 9M

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
no. 3, 1966, 69

TOPIC TAGS: flow meter, flow ionization, electroconductive fluid,
flow rate

ABSTRACT: An Author Certificate has been issued describing a method
for measuring the flow rate of electroconductive fluids by flow ioniza-
tion. To extend measurement limits, the flow is passed through a con-
ductometric cell, and measurements are made of the impedance of the
flow. This varies depending on changes in the capacity of the double
layer of ions formed near the electrode and in the capillary and on
changes in the mobility of ions during the passage of the liquid
through the capillary. The above changes represent the flow rate
measurement. [LD]

SUB CODE: 13/ SUBM DATE: 15Jun64/
Card 1/1 BLG UDC: 681.121.8 2

PHASE I BOOK EXPLOITATION

SOV/5896

BR

Kulakov, Mikhail Vasil'yevich, and Sergey Ivanovich Shchepkin

Avtomaticheskiye kontrol'no-izmeritel'nyye pribory dlya khimicheskikh proizvodstv
(Automatic Control and Measuring Instruments for the Chemical Industries)
Moscow, Mashgiz, 1961. 552 p. Errata slip inserted. 15,000 copies printed.

Reviewers: V. P. Malyshev, Candidate of Technical Sciences, and V. P. Anders,
Engineer; Ed.: S. I. Mordovskiy, Candidate of Technical Sciences; Ed. of
Publishing House: A. L. Tairova; Tech. Eds.: A. F. Uvarova and Z. I.
Chernova; Managing Ed. for Literature on Chemical and Textile Machine Building;
V. I. Rybakova, Engineer.

PURPOSE: This book is intended as a handbook for chemical engineers and as a
textbook for students.

COVERAGE: The book deals with methods of automatic control and with the operating
principles, designs, and advantages and disadvantages of the most widely used
measuring devices in the Soviet chemical industry. Problems connected with the
installation, checking (or calibration), and operation of these devices are
discussed. Fundamental data are given on automatic control devices which are

Card 1/1

Automatic Control and Measuring Instruments (Cont.)

SOV/5896

mass-produced by the Soviet instrument-making industry and on new models developed in recent years. Part III (Chs. XIV to XVII), which discusses and gives structural diagrams of wide- and narrow-range, electrical, and radio-active level sensors, may be of special interest. The authors thank personnel of the department of Automation in Chemical Production at the Kazan Institute of Chemical Technology imeni S. M. Kirov. There are 358 figures (mainly structural diagrams) and 31 references, all Soviet.

TABLE OF CONTENTS [Abridged]:

Foreword	3
Introduction	5
PART ONE. TEMPERATURE MEASUREMENT	
Ch. I. Basic Concepts. Temperature Scales. Classification of Temperature-Measuring Devices	18
Ch. II. Expansion Thermometers and Manometric Thermometers	25

Card 2/4

KULAKOV, N.

Proposals which fail to take into account practical requirements. Sots.trud. no.4:98-99 Ap '56.

(MLRA 9:11)

1. Nachal'nik otдела truda i zarabotnoy platy zavoda
"Severnnyy Kommunar," g. Vologda.
(Efficiency, Industrial)

Kulakov, N.
AID P - 3585

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 2/26

Author : Kulakov, N., Senior Inspector of the Central Committee
of the DOSAAF

Title : The patriotic activity of DOSAAF should be developed all
the time

Periodical : Kryl. rod., 11, 3, N 1955

Abstract : An outline of the basic policy of the DOSAAF

Institution : DOSAAF

Submitted : No date

KULAKOV, N.

Reviewing the activity of our society. Kryl.rod. 11 no.11:4 H '60.
(MIRA 13:10)

1. Starshiy inspektor Tsentral'nogo komiteta Dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu SSSR.
(Aeronautics--Societies, etc.)

KULAKOV, N.

Mighty weapon of the party. Voen.znan. 38 no.5:5-6 My '62.
(MIRA 15:5)

1. Starshiy inspektor TSentral'nogo komiteta Dobrovol'nogo
obshchestva sodeystviya armii, aviatsii i flotu.
(Pravda) (Journalism, Military)

KULAKOV, N.

Review of the patriotic activity of the society. Kryl.rod.
13 no.11:5 N '62. (MIRA 15:12)
(Aeronautics—Societies, etc.)

SOV/129-58-12-6/12

AUTHORS: Blanter, M.Ye., Doctor of Technical Sciences, Professor,
Kulakov, N.A., Sergeychev, I.M., Mikhin, T.A. and
Faynbron, S.D., Engineers

TITLE: Hardening in Water-air Mixtures (Zakalka v vodo-
vozdushnykh smesyakh)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 12,
pp 29 - 34 (USSR)

ABSTRACT: The authors investigated systematically the influence of the main factors on the cooling capacity of water-air mixtures for hardening for the purpose of obtaining quantitative characteristics which can be used as a basis for a controlled technological process. Use of water-air mixtures of various compositions permits obtaining a wide range of cooling regimes, from cooling in a jet of pure air up to quenching in a water jet. For obtaining the water-air mixtures, a nozzle with a special end piece was used, the purpose of which was to widen the atomising angle. The air pressure was maintained by means of a direct-action pressure regulator. The water-flow rate between 18 and 116 litres/hour was measured with an RS-5 rotameter and the flow rate of 185 to 1 030 litres/hour was measured by means of a rotameter RS-7 with an accuracy of 1.5-2.5%.

Card1/5

Hardening in Water-air Mixtures

SOV/129-58-12-6/12

Special filters were fitted to prevent clogging-up of the water-supply system. Cooling curves were recorded by means of a potentiometer with visual control of the operation of the thermocouples. At first, the problem of the optimum distance of the spraying nozzle from the surface of the plate to be hardened was investigated and the obtained relations are graphed in Figure 3. Owing to great practical difficulties involved in systematic investigation of massive steel bodies, the authors used a method of thermal modelling, as proposed by A.L. Nemchinskiy (Ref 2), which is based on the principle that in the case of cooling of bodies of sufficient length, the cooling takes place as a result of heat transfer from the longitudinal surface whilst the heat transfer between adjacent volumes of approximately equal temperature is negligible. The heat-exchange conditions were simulated by means of an analogue, a sketch of which is shown in Figure 4. The cooling curves obtained under conditions of thermal modelling of water are graphed in Figure 5. In view of the fact that the objective index of the cooling capability is the magnitude of the cooling speed, the obtained cooling curves were differentiated graphically

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Hardening in Water-air Mixtures

SOV/129-58-12-6/12

by the method of plotting normals, described in an earlier paper of one of the authors (Ref 4). The influence of the degree of humidification of the air on the cooling speed is graphed in Figure 6; it can be seen that the cooling speed will be highest at 800 °C except for the water-flow rate of 200 litres/hour, in which case the maximum cooling speed is at 700 °C. With increasing humidification, the rate of cooling increases, as can be seen from Figure 7. The influence of the air pressure on the cooling speed is graphed in Figure 8. The influence of the thickness of the cooled steel body on the cooling speed is graphed in Figure 9. The influence of the degree of humidification on the depths of the hardened layer is graphed in Figure 10. It was established in the experiments that the cooling power of the investigated mixtures varies within a wide range and cooling in oil is equivalent to cooling in slightly humidified air with a water-flow rate of about 20 litres/hour under the same conditions. It was experimentally established that the optimum distance from the spraying nozzle to the surface to be cooled equals 500 mm, while the optimum air pressure

Card3/5

Hardening in Water-air Mixtures

SOV/129-58-12-6/12

equals 3 atm. For the particular case of hardening of massive bodies with sharp cross-section changes, the maximum permissible water-flow rate for the steel 5KhNV equals 100 litres/hour and the active cooling surface equals 0.05 - 0.20 m² per each atomiser nozzle of the applied design. It is shown that investigation of the pertaining relations can be extended to bodies of 400 - 700 mm thick. Thus, use of special metering apparatus permits working out of a correctly controlled method of hardening by means of water-air mixtures, ensuring standard heat-treatment results whereby control of the process can be made fully automatic. Due to the great simplicity of the equipment, the method can be recommended as a completely satisfactory and economic substitute for hardening in oils and other special media.

Card 4/5

Hardening in Water-air Mixtures

SOV/129-58-12-6/12

There are 10 figures and 5 references, 4 of which
are Soviet and 1 German.

Card 5/5

PHASE I BOOK EXPLOITATION: SOV/5011

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti.
Kiyevskoye oblastnoye pravleniye.

Perelozheniye i tekhnicheskaya obrabotka (Physical Metallurgy and Heat
Treatment of Metals) Moscow, MashGiz, 1961. 350 p. strutsa slipt
inserted. 5,000 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskyy komitet
Sovetskogo Ministerev Obrashcheniya, Nauchno-tekhnicheskoye obshchestvo
mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye
pravleniye.

Editorial Board: N. P. Braun, Doctor of Technical Sciences, I. Ya.
Dezhnyar, Doctor of Technical Sciences, D. A. Dravgor, Doctor of
Technical Sciences, I. S. Kravchenko, Engineer, Ye. A. Markov-
skiy, Candidate of Technical Sciences, V. G. Pomyakov, Doctor
of Technical Sciences, and A. V. Chernovol, Candidate of Tech-
nical Sciences; Ed.: M. S. Sorokai Tech. Ed.: M. S.
Gornostayevskiy; Chief Ed., Mashgiz (Southern Dept.): V. K.
Sedyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific
workers and technical personnel of research institutes, plants,
and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention
held in Kiev on problems of physical metallurgy and methods of
the heat treatment of metals applied in the machine industry.
Phase transformations in metals and alloys are discussed, and
results of investigations conducted to ascertain the effect of
heat treatment on the quality of metal are analyzed. The pos-
sibility of obtaining metals with given mechanical properties
is discussed, as are problems of steel brittleness. The col-
lection includes papers dealing with kinetics of transformation,
heat treatment, and properties of cast iron. No personalities
are mentioned. Articles are accompanied by references, mostly
Soviet.

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IGNATOV, A.A.; KULAKOV, N.D.

Reliability of take in rollers of hot forging crank presses.
Kuz.-shtam.proizv. 7 no.2:20 F '65. (MIRA 18:4)

MOSCOW OBLAST PEDAGOGICAL INST.

KULAKOV, N.G. - "Investigation of one system of nonlinear integral equations".
Moscow, 1955. Min Education RSFSR. Moscow Oblast Pedagogical Inst.
(Dissertation for the Degree of Candidate of Physic mathematical Sciences.)

SO: Knizhnaya Letopis' No. 46, 12 November 1955 Moscow

KULAKOV, Nikolay Ivanovich; GLADKOV, V.A., red.; SYCHEVA, V.A.,
tekhn. red.

[On the right flank of technological progress] Na pravom
flange tekhnicheskogo progressa. Murmansk, Murmanskoe
knizhnoe izd-vo, 1962. 16 p. (MIRA 16:5)
(Technological innovations)

KAYNARSKIY, I.S.; DEGTYAREVA, E.V.; PINDRIK, B. Ye.; KUKHTENKO, V.A.;
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SHAROV, M.F.; KOZIN, L.M.; KVASHA, A.S.; PELESHCHUK, M.I.; PRYAKHIN,
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Reducing dust formation from dinas bricks and dinas mortar.
Ogneupory 29 no.3:109-112 '64 (MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov
(for Kaynarskiy, Degtyareva, Pindrik, Kukhtenko).
2. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy koksokhimicheskoy promyshlennosti (for Kulakov, Bel'chenko, Ivnitskaya).
3. Vsesoyuznyy trest po stroitel'stvu i montazhu koksokhimicheskikh zavodov (for Peleshchuk, Pryakhin, Levina).
4. Ukrainskiy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy (for Danilov, Didenko, Protsenko).

1ST AND 2ND LETTERS																										PROCESSING AND REFERENCE INSTRUCTIONS																									
COMMON ELEMENTS																										MATERIALS INDEX																									
<p>ca</p> <p>The firing of coke ovens with dehydrogenated gas N. K. Kulakoy, <i>Coke and Chem.</i> (U. S. S. R.) 1039, No. 1, 27-67; No. 4-5, 37-41; <i>Khim. Referat. Zhur.</i> 1939, No. 9, 480.—The deposition of graphite during the firing of coke ovens with dehydrogenated coke-oven gas and the methods for combating it were investigated. With dehydrogenated gas the flame was approx. twice as long, the temp. was lower by 55%, and the amt. of the flue gases per unit of heat evolved was greater by 3% than with H₂-contg. gas. The expenditure of heat for coking was greater with the dehydrogenated gas. Methods for combating the deposition of graphite are burning out the graphite, conversion of the gas with steam and change of the construction of the burners. W. R. Henn</p>																										<p>21</p>																									
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KULAKOV, N.K., inzhener.

Temperature conditions in the coke cake according to width and height of the chamber. Koks i khim. no.2:37-43 '55. (MLRA 9:3)

1. Giprokoks.

(Coke ovens)

KULAKOV, N.K.

VODNEV, G.G.; SHELKOV, A.K.; DIDENKO, V.Ye.; FILIPPOV, B.S.; TSAREV, M.H.;
 ZASHVARA, V.G.; LITVINENKO, M.S.; MEDVEDEV, K.P.; MOLODTSOV, I.G.;
 LGALOV, K.I.; RUBIN, P.G.; SAPOZHNIKOV, L.M.; TYUTYUNNIKOV, G.N.;
 DMITRIYEV, M.M.; LEYTES, V.A.; LERNER, B.Z.; MEDVEDEV, S.M.; REVIYAKIN,
 A.A.; TAYCHER, M.M.; TSOGLIN, M.E.; DVORIN, S.S.; RAK, A.I.; OBUKHOV-
 SKIY, Ya.M.; KOTKIN, A.M.; ARONOV, S.G.; VOLOSHIN, A.I.; VIROZUB, Ye.V.;
 SHVARTS, S.A.; GINSBURG, Ya.Ye.; KOLYANDR, L.Ya.; BELETSKAYA, A.F.;
 KUSHNEREVICH, N.R.; BRODOVICH, A.I.; NOSALEVICH, I.M.; SHTROMBERG, B.I.;
 MIROSHNICHENKO, A.M.; KOPELIOVICH, V.M.; TOPORKOV, V.Ya.; AFONIN, K.B.;
 GOFTMAN, M.V.; SEMENENKO, D.P.; IVANOV, Ye.B.; PEYSAKHZON, I.B.;
 KULAKOV, N.K.; IZRAELIT, E.M.; KVASHA, A.S.; KAFTAN, S.I.; CHERMNYKH,
 M.S.; SHAPIRO, A.I.; KHALABUZAR', G.S.; SEKT, P.Ye.; GABAY, L.I.;
 SMUL'SON, A.S.

Boris Iosifovich Kustov; obituary. Koks i khim. no.2:64 '55.(MLRA 9:3)
 (Kustov, Boris Iosifovich, 1910-1955)

KULAKOV, N.K., inzhener.

Temperature distribution in the coke cake at different points in the coking chamber. Koks i khim. no.1:25-32 '56. (MLRA 9:5)

1. Giprokoks.

(Coke ovens)

Kulakov, N.K.

AUTHORS: Peysakhzon, I.B., and Kulakov, N.K.

68-11-5/11

TITLE: Achievements in the Field of Design of Coke Ovens
(Dostizheniya v oblasti konstruirovaniya koksovykh pechey)

PERIODICAL: Koks i Khimiya, 1957, No.11, pp. 23 - 29 (USSR)

ABSTRACT: The development of the Soviet design of coke ovens (Bekker type) is described in some detail. The first ovens of Soviet design were built in 1934. In 1945-1946, two types of ovens were established [K-2K and ПБП. Up to 1951, the size of the ovens was standardized: width 407 mm, height 4 300 mm, length 13.12 m, the difference in width between pusher and coke side 50 mm. From 1951, the length was increased to 14.08 m. Coking period 14 to 15 hours. In 1955, both types of ovens were modernized. At present, the design of coke ovens is developing in two directions: complete revision of all dimension of the oven (width, height and length) towards their increase and improvement of heating systems and elements of ovens. A 77 oven battery with ovens 450 mm wide, 5 000 mm in height and 15.04 m long will soon be completed. Ovens for coking pitch for the production of electrode coke of Soviet design have already been operating satisfactorily for some years. Plant for dry quenching of coke of a bunker type with the production of steam

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Achievements in the field of Design of Coke Ovens. 68-11-5/11

of 40 atm. was developed and the construction of such plant
was started. There are 4 figures.

ASSOCIATION: Giprokoks

AVAILABLE: Library of Congress

Card 2/2

Ky LAKOU, N.K.

5(1)	PLANE 1 BOOK EXPLANATION	507/217
	Kosobolchashkova production, abovik statoy (By-Product Coking Industry Collection of Articles) Moscow, Metallurgizdat, 1959. 240 p. 2,500 copies printed.	
	Ed.: B. S. Filippov; Ed. of Publishing House: A. A. Beryakina; Tech. Ed.: P. G. Isakov	
	PREFACE: The book is intended for engineers and technicians in the by-product coking industry and in scientific research institutes. The book may also be used by students in secondary and higher technical schools.	
	CONTENTS: The articles in this collection on the by-product coking industry appeared originally either in periodicals or in the book "By-Product Coking Industry" (Moscow, Metallurgizdat, 1959-1960). The book contains the development of new material for coking, technical progress, the manufacture of coke, quality of coke and further enlargement of the number of chemical coking products obtained. Some articles are devoted to a new procedure for preparing and beneficiating coals, new methods for coking, and to the mechanization and automation of industrial processes. References accompany individual articles.	
	SYRANOV, A. S., A. M. Isakovskiy, and M. G. Polikarpin. [RUSSIAN] The Basic Principles for Preparation of Coals for Coking by Crumbling	76
	Syranov, A. Ya. [Candidate of Technical Sciences, USSR]. Beneficiation of Coking Coals in Heavy Media	76
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	Kuznetsov, M. S., and I. M. Kuznetsov [RUSSIAN]. Prospects of the Development of Processing Chemicals Obtained in the By-Product Coking Industry in the USSR. Spring 1959-1963	227
	Kuznetsov, I. M. [RUSSIAN]. Progress in Developing a Larger Number of Primary Products in the Processing of Coal for	234
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Card 1/1

24/mg
10-30-59

AUTHOR: Kulakov, N.K.

SOV/68-58-2-6/20

TITLE: Regularities in Heating-up of the Coal Charge in Coke Ovens (Zakonomernosti progrevaya ugol'noy zagruzki v koksovykh pechakh)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 20 - 27 (USSR)

ABSTRACT: The distribution of temperatures along the width of the coke oven, its changes in the course of coking, the heat flow from the wall to the coal charge during the coking period and heat conductivity of oven walls were studied. Temperature measurements along the width of the coke oven during the coking period were carried out on PK-2K ovens of the Krivoy Rog Works with a mean width of 407 mm and on MPN ovens of the Kharkoskiy koksokhimicheskiy zavod (Khar'kov Coking Works) with a mean width of 510 mm. The thermocouples were placed 2.5 m from the oven sole at the walls and every 50 mm along the oven width. Coke-oven operating conditions are given in Table 1 and the experimental results obtained in Figures 1 and 2. The temperature of the surface of the oven walls one hour after charging reached 700 - 800 °C and after 3 hours 800 - 900 °C. Isochore curves of the temperature distribution across the oven width are shown in Figures 3-5.

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Regularities in Heating-up of the Coal Charge in Coke Ovens

The temperature in the axial plane reaches 100°C during the second hour after charging and remains at this level until the 7-9th hour, i.e. until the moisture is completely evaporated. On reaching 800°C , the isochore curves become practically a straight line which indicates that the heat conductivity of the formed coke is high. The temperature difference between the wall and the axial plane does not exceed $20 - 40^{\circ}\text{C}$. In the layers adjoining walls the initial rate of rise in temperature is rapid, then in the temperature range $960 - 1\,000^{\circ}\text{C}$ it decreases and only when a temperature of about 800°C is attained in the axial plane a rapid rise of temperature at all points takes place. Data for comparison of heating conditions in ovens of different widths are heating velocities in the temperature range $450 - 800^{\circ}\text{C}$ and thermal stresses in layers of the charge which determine the structure of the formed coke are given in Table 2. The highest rate of heating $2.5 - 3.8^{\circ}\text{C/min}$ takes place at the walls and in the axial plane of the charge. In wide ovens, the layer adjoining the walls is heated up most rapidly (due to a higher wall temperature) - 3.88°C/min , while the rate of heating up of the middle part of the charge (between the wall and

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Regularities in Heating-up of the Coal Charge in Coke Ovens

axial plane) is slower than in narrow ovens. In this region the mean heating rate for wide ovens is $1.25^{\circ}/\text{min}$ and for narrow ovens - $1.54^{\circ}/\text{min}$. The overall mean heating velocity for wide and narrow ovens amounts to 1.81 and $1.93^{\circ}/\text{min}$, respectively. On the basis of isochore curves it is concluded that an increase in the moisture content of the blend has a similar influence on the heating conditions as shortening of the coking period. In both cases, the size of coke decreases. At a constant bulk density of dry coal an increase in the moisture content of 2.5 - 3% is equivalent in the heat effect to a decrease in the coking period by one hour (from 15 to 14 hours). The influence of moisture content of coal on the conditions of coke formation are non-uniform, at the walls the influence is positive and in the middle of the charge negative. Using isochore curves temperature changes in the charge during the following stages of heating up of the charge were determined to 100°C with the evaporation of moisture; from 100°C to plastic state (350°C); from 350 to 700°C and from 700°C to the final coking temperature. The calculated heat flow during each hour of coking is given in Table 3. The heat

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Regularities in Heating-up of the Coal Charge in Coke Ovens

flow into the oven during the first hour after charging (Figures 6 and 7) is nearly 2.5 times higher than the average during the whole coking period and 3-4 times higher than during the end of the coking period. During the first third of the coking period the coal charge receives up to 50% of the whole heat required for coking, partly by the removal of heat previously accumulated in the walls, the latter is again restored to the walls during the following 2/3 of the coking period. The mean hourly heat flow to narrow and wide ovens is the same despite the fact that the flue temperatures of wide ovens are usually higher. Changes in the temperature of oven walls from the side of the heating flues were measured with an optical pyrometer sited on a plate from stainless steel inserted on a rod into the flue and pressed to the wall at the same level on which the wall temperature in the oven was measured. The calculated mean heat transfer coefficients for walls were as follows: for oven width

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Regularities in Heating-up of the Coal Charge in Coke Ovens

on the pusher side of 394 mm - 1.44 kcal/m.h.^{°C}, for
oven width on the pusher side of 494 mm - 1.50 kcal/m.h.^{°C},
for oven width 420 mm on the coke side - 1.48 kcal/m.h.^{°C}.
There are 7 figures and 3 tables.

ASSOCIATION: Giprokoks

Card 5/5

AUTHOR: Kulakov, N.K.

SOV/68-59-5-6/25

TITLE: Some Individual Regularities Characterising Coking
Conditions in Industrial Ovens (Otdel'nyye zakonomernosti,
kharakterizuyushchiye usloviya koksovaniya v
promyshlennykh pechakh)

PERIODICAL: Koks i khimiya, 1959, Nr 5, pp 15-21 (USSR)

ABSTRACT: It is pointed out that some important problems of theory and practice of coking in industrial ovens were, as yet, insufficiently investigated, in particular the problem of behaviour of the cold part of the charge, i.e. that part which is not yet heated to the temperature of the transition of coal into the plastic state. A brief outline of the results of investigating the behaviour of this part of the charge using probes is given:
1) Variation of the moisture content in the tar line plane with coking time (Fig 1). It was found that a rapid heating of the middle part of the charge to 100 °C is due to the movement of moisture and gas from the heated walls towards the oven axis and their partial condensation. An increased moisture content of the charge (above 9%) slows down the process of heating,

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Some Individual Regularities Characterising Coking Conditions in Industrial Ovens

causing a sharper inflection of temperature isochores along the oven width. The latter should have an influence on the formation of a larger number of transverse cracks and thus to a smaller coke.

2) The resistance of the cold part of the charge to the passage of gases. This was measured outside the ovens in an instrument (Fig 1) consisting of a tube filled with coal blends of a different degree of fineness, moisture content and bulk density and measuring the pressure drop at a constant gas flow, or the gas flow at a constant pressure drop. Experimental results are shown in Figs 3 and 4. In addition the pressure which develops during coking in the cold part of the charge has been measured using tubes inserted to various depths in the oven and connected to manometers (Fig 5). It was found that the resistance of the cold part of the charge to the passage of gases can reach considerable values (up to 1000 mm H₂O 600 mm from the oven sole, depending on the "natural" properties of the coal blend, temperature and blend preparation conditions. The outlet to the under-roof

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Some Individual Regularities Characterising Coking Conditions in Industrial Ovens

space is open to a small proportion of vapours and gases of the cold side. The greatest proportion passes towards the hot side. The pressure in the cold part of the charge, similarly to the swelling pressure can serve as an indication of the load exerted by the charge on the oven walls. The largest part of the vapour and gases find their way towards the hot side, overcoming the resistance of the plastic layer.

3) Calculation of the static strength of heating walls - a method of calculating is illustrated.

4) The formation of sponge in the upper part of the charge. The influence of levelling dry and wet coal blend on the shape of the top of the charge is illustrated in Figs 7 and 8 respectively. It is considered that the formation of sponge in the upper part of the charge is influenced by the "natural" properties of coals, temperature conditions of coking, the initial moisture content of the charge and the degree of compression of upper layers obtained during levelling of the charge. The main measures against the formation of sponge are: a) an increase in the moisture

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